

# MASTERFLEX<sup>®</sup> INJEKT 500

## Fast setting elastic acrylate – ester resin for sealing cracks in concrete structures

### Description

MASTERFLEX<sup>®</sup> INJEKT 500 is a solvent free, water soluble injection gel for use with two-component injection pumps.

### Primary uses

- It is used for the injection and sealing of joints and cracks in concrete and stone against pressing and non-pressing water using an injection packer.
- Due to its low viscosity and therefore low flow resistance MASTERFLEX<sup>®</sup> INJEKT 500 is able to penetrate into the smallest of hairline cracks and capillaries, sealing them reliably and permanently.
- MASTERFLEX<sup>®</sup> INJEKT 500 is perfect for sealing surfaces, for example, as an injection application between structural concrete and soil in defective areas.
- Even if the injected structure subsides or the dimensions change, the seal created by MASTERFLEX<sup>®</sup> INJEKT 500 remains in tact, because the material is to swell up to a factor of 2 (double its volume) on contact with water. The swelling is reversible, meaning that the self-healing properties remain even after dry periods. The swelling and re-swelling is solely dependent on the availability of water or liquid. In a wet or damp environment a state of equilibrium is set up between the water content of the surrounding medium and that of the MASTERFLEX<sup>®</sup> INJEKT 500. Due to the moisture in the concrete, the material remains in a swollen state.
- MASTERFLEX<sup>®</sup> INJEKT 500 can be used anywhere where a structural bond is not required between the joint flanks.
- MASTERFLEX<sup>®</sup> INJEKT 500 as a result of its hydrophilic components, is able to respond even to damp surfaces (as opposed to other products, such as polyurethane resins. Because MASTERFLEX<sup>®</sup> INJEKT 500 does not chemically react with water, a foam layer which would reduce adhesion is not produced.
- MASTERFLEX<sup>®</sup> INJEKT 500 can be used at object temperatures as low as +5°C without any problem and continues to maintain a strong resistance against permanent water pressure.
- MASTERFLEX<sup>®</sup> INJEKT 500 once cured, is stable to alkaline solutions and is not affected by wet concrete. MASTERFLEX<sup>®</sup> INJEKT 500 is stable to acids, alkalis, numerous solvents and fuels and does not attack bitumen, joints ribbons, steel reinforcements or concrete.
- MASTERFLEX<sup>®</sup> INJEKT 500 is suitable for use in structures containing potable water.

### Packaging

MASTERFLEX<sup>®</sup> INJEKT 500 is available in a 24kg unit comprising the following components:

Component A	-	20kg
Accelerator	-	2 x 1.0kg
Hardening powder	-	4 x 0.5kg
<b>Total weight</b>	-	<b>24kg</b>

### Standards

Potable Water Certification National Sanitation Foundation – Complies to ANSI / NSF Standard 61 Drinking Water System Components – Health Effects

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## Processing information

It is extremely important that parts of the pump which come into contact with the material are made of stainless steel or are chromium plated.

The supply vessel to the pump should, optimally, be made of plastic. If possible, the supply vessel should be coloured "black" in order to protect the MASTERFLEX<sup>®</sup> INJEKT 500 from direct sunlight, because monomers are sensitive to UV light. Other sources of intense UV could be from the lights on the jobsite.

After mixing, the material should be protected from excessive heat. The polymerisation is accelerated greatly by introduction of heat. Therefore, do not mix too much of the MASTERFLEX<sup>®</sup> INJEKT 500 at one time. Avoid heat build-up.

## Equipment

Two component injection pump, and injection packer(s) are required.

## General

The reaction times for polymerisation reactions depend to a great extent on the ambient temperature and the amounts (mass of material) mixed. The times quoted by are from laboratory data. It is possible that, different reaction times are found in actual practice. It is recommended that sample tests be carried out to determine the exact adjustments of mixed ratios before injection work is begun.

## Mixing instructions

### General mixing:

1. **MASTERFLEX<sup>®</sup> INJEKT 500** component A is activated with the supplied accelerator. The reaction time is adjusted by selecting the amount of accelerator used.
2. **MASTERFLEX<sup>®</sup> INJEKT 500** component B is produced by dissolving the hardening powder in water. The concentration of the hardening powder also affects the reaction time.
3. Both components are injected separately using a two-component injection pump with a static mixing device in the proportions of 1:1 by volume.

## \*Technical data

	<b>Component A</b>	<b>Component B Water with 5-10% Hardener Powder</b>	<b>Mixed resins</b>
Viscosity (25°C)	5-20 mPas	Approx. 1 mPas	<3mPas
Density (20°C)	Approx. 1.10g/cm <sup>3</sup>	Approx. 1.0g/cm <sup>3</sup>	Approx. 1.06 g/cm <sup>3</sup>
Solids	100%	5-10%	Approx. 54%
pH value (20°C)	Approx. 7	Depends on shelf life	10-12
Colour	Transparent-clear	Colourless	Transparent-Clear
Odour	Typical-aromatic-mild	No smell	Typical-Aromatic-Mild
Soluble in	Water	Water	Water (no cured state)
Reaction time (20°C)	-		1.5-6 min

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## Mixing instructions:

1. 20 kg component A are mixed with 0.5 to 10% (0.10 to 2.0 kg) accelerator.
2. Component B is produced by dissolving the hardening powder in water.
  - A 10% solution by dissolving 2.0 kg hardening powder in approx. 18.0 kg water.
  - A 5% solution by dissolving 1.0 kg hardening powder in approx. 19.0 kg (litre) of water.
3. The dependence of the reaction time on accelerator and hardening concentrations.

## Storage life

Storage life of accelerated component A approx. 12 hours. Component A should be protected from direct sunlight and heat, especially after the accelerator has been added. Storage life of Component B approx. 24 hours.

## Safety instructions

MASTERFLEX<sup>®</sup> INJEKT 500 contains no toxic constituents. Acrylic monomers irritate the eyes and skin. Sensitisation is possible if the material comes into contact with the skin. The usual work hygiene protective measures should be adhered to; do not eat, drink, or smoke while working with material. Wash hands following contact. Personal protective measures; wear safety glasses, rubber gloves and industrial clothing. Ensure that the work place is well ventilated. There is an extensive safety datasheet available for the product which includes all relevant data on work safety, transport and toxicology. Hardened MASTERFLEX<sup>®</sup> INJEKT 500 is physiologically safe

and can be disposed of as normal household waste.

## Storage

MASTERFLEX<sup>®</sup> INJEKT 500 can be stored up to 6 months in sealed containers and at temperatures between +10°C and 30°C.

## Care and maintenance of equipment

Tools and equipment contaminated with uncured MASTERFLEX<sup>®</sup> INJEKT 500 can be easily cleaned using water. Hardened material should be softened by swelling with our CLEANING SOLVENT No. 2 and can then be removed mechanically without any great difficulty.

## Note

Field service, where provided, does not constitute supervisory responsibility. For additional information contact your local BASF representative.

BASF reserves the right to have the true cause of any difficulty determined by accepted test methods.

## Quality and care

All products originating from BASF's Dubai, UAE facility are manufactured under a management system independently certified to conform to the requirements of the quality, environmental and occupational health & safety standards ISO 9001, ISO 14001 and OHSAS 18001.

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\* Properties listed are based on laboratory controlled tests.

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